

REMARKS/ARGUMENTS

Favorable reconsideration of this application in view of the present remarks is respectfully requested.

Claims 14 and 16-28 are pending. As the claims are maintained in their present form, it is respectfully submitted that no new matter is added.

In the outstanding Office Action, Claims 14, 16-18, 21, 25, and 26 were rejected under 35 U.S.C. § 103(a) as unpatentable over Russell (U.S. Patent No. 3,345,147) in view of Cole (U.S. Patent No. 3,518,069); and Claims 19, 20, and 28 were rejected under 35 U.S.C. § 103(a) as unpatentable over Russell or Cole, and further in view of Suh et al. (U.S. Patent No. 4,270,951, hereinafter "Suh").

Turning now to the rejections under 35 U.S.C. § 103(a), Applicants respectfully request reconsideration of these rejections and traverse these rejections, as discussed below.

Claim 14 recites:

A heat exchanger device, comprising:

at least one fin including means for blowing a fluid,

wherein the blowing means are uniform and include at least one wall of the fin, the at least one wall having open porosity of between 15 and 20%.

Thus, the at least one wall in the claimed heat exchanger device has open porosity of between 15 and 20%. Accordingly, the at least one wall of the fin produces a uniform flow of air. Specifically, it has been found that it is preferable to have a porosity lower than 20% while increasing the fluid pressure, compared to fins with higher porosities. It has also been found that it is preferable to have a porosity higher than 15% while reducing the fluid pressure, compared to fins with lower porosities. It is respectfully submitted that the cited references do not disclose or suggest every feature recited in Claim 14.

Russell describes a shield unit 26 that includes a plurality of heat removing members in the form of porous, hollow blade-like fins 28.¹ Russell describes that the blade-like fins 28 are pervious or permeable, but does not recite a specific porosity range. However, Russell does recite that the perviousness of the metal mesh used to make the fins 28 may be in the order of 30%.² Thus, Russell does not explicitly recite the claimed porosity.

The Office Action states on page 2 that “Russell further teaches other porous materials can be used for the fin, just as long as the porosity has the desired permeability to retain a cooling liquid from freely flowing through while yet still allowing for volatized gases to pass.” The Office Action appears to be taking the position that Russell teaches that adjusting the porosity allows to the fins to achieve the desired cooling effect. Applicants respectfully traverse this position.

Russell describes that the porosity should be small enough to retain the liquid. Therefore, according to Russell, a specific porosity is selected *for each fluid*. Thus, it is the cooling fluid in Russell, *not the porosity*, that is selected to achieve the desired cooling effect. Therefore, even in view of Cole, it would not be obvious to a person of ordinary skill in the art reading Russell, to optimize the porosity to fall within the claimed range. On the contrary, Russell is concerned with selecting a particular cooling fluid to achieve the desired cooling effect and thus the porosity would be selected based on the fluid, not optimized to be within the claimed range.

It should also be noted that Russell does not disclose or suggest to restrict the porosity when the fluid is air. In fact, when the fluid is air, a higher porosity would rather help enhance the cooling effect of the fin.

Also it should be noted that tests in the present specification were conducted with air and that the results were found to be very good. Specifically, as explained at page 8, line 11

¹ See Russell, at col. 5, lines 11-13.

² See Russell, at col. 6, lines 14 and 15.

to page 9, line 5, it is preferable, when the fluid is air that the flow of air is gentle and adjusted so that the temperature of the cone of glass remains high. Such a high temperature of the cone enhances the cooling effect by itself. Thus, a limited porosity fin was found to show excellent results.

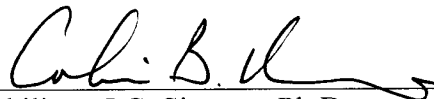
Accordingly, Russell in view of Cole does not disclose or suggest every feature recited in independent Claim 14. Thus, it is respectfully requested that the rejection of Claim 14, and all claims dependent thereon, as unpatentable over Russell in view of Cole be withdrawn.

Regarding the rejection of Claims 19, 20, and 28 as unpatentable over Russell in view of Cole and Suh, it is noted that Claims 19, 20, and 28 depend on Claim 14. Thus, Claims 19, 20, and 28 are believed to be patentable over Russell in view of Cole for at least the reasons discussed above with respect to Claim 14. Further, it is respectfully submitted that Suh does not cure the above-noted deficiencies of Russell in view of Cole. Therefore, it is respectfully requested that the rejection of Claims 19, 20, and 28 as unpatentable over Russell in view of Cole and Suh be withdrawn.

Consequently, in view of the present response, no further issues are believed to be outstanding in the present application and the present application is believed to be in condition for formal allowance. A Notice of Allowance is earnestly solicited.

Respectfully submitted,

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